

84

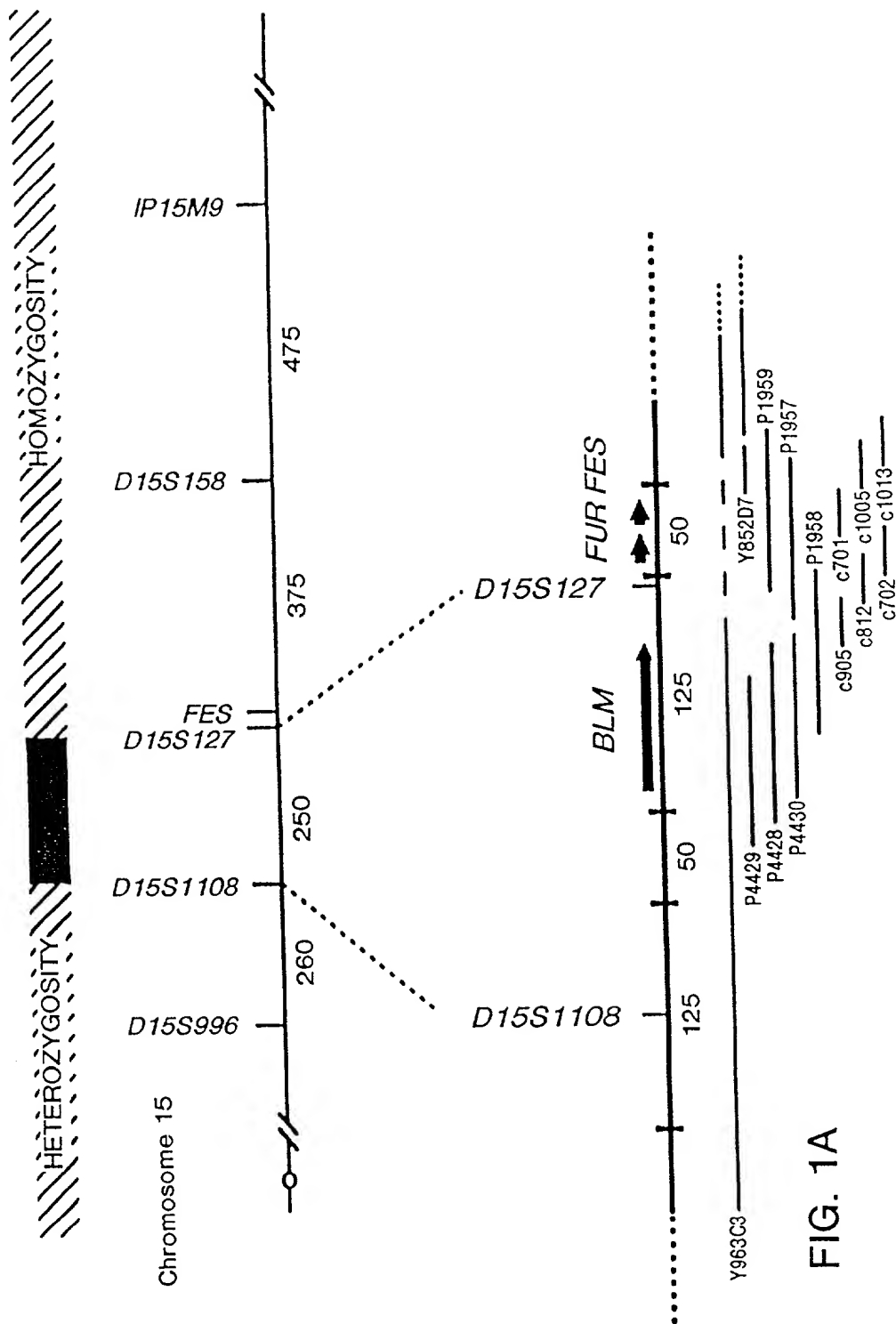
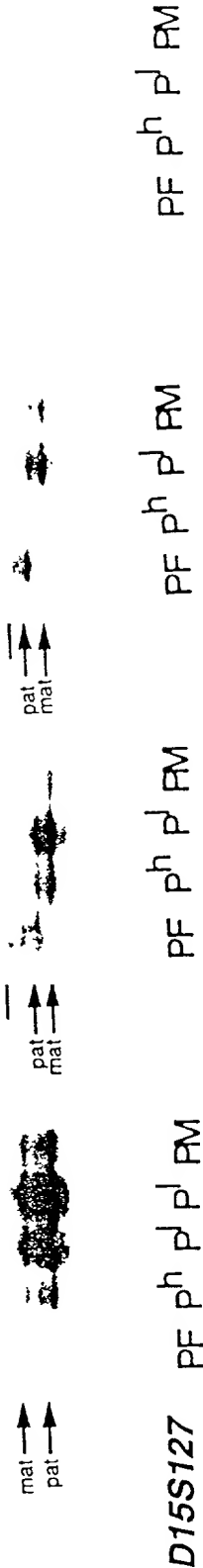


FIG. 1A

	<u>11(laTh)</u>	<u>59(FrFit)</u>	<u>87(AIFra)</u>	<u>NR8(KeSol)</u>
D15S1108	PF P ^h P ^l P ^l RM	PF P ^h P ^l RM	PF P ^h P ^l RM	



D15S127

PF P^h P^l P^l RM

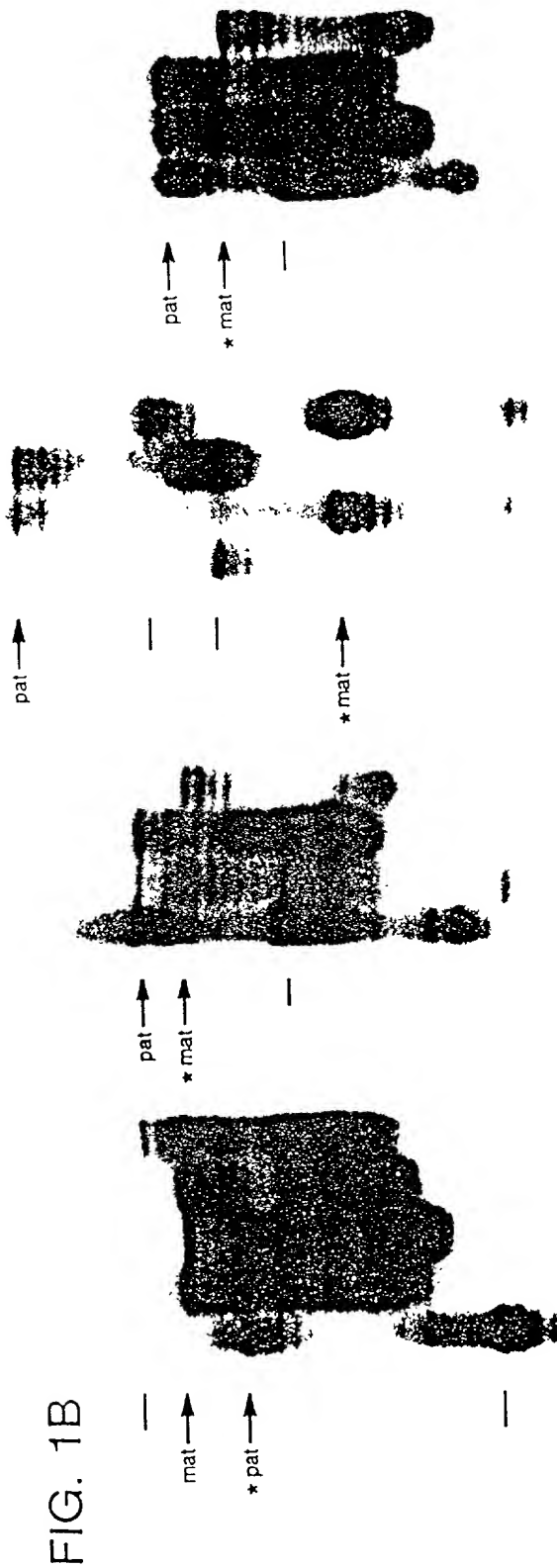


FIG. 1B

gcgcggcgccgtggttcgcggcggggaagtcttggtatccctgggtccgtccgctaggagctcgtgcgaggattatggctt M A 80

GCTGTTCCCTCAAAATAATCTACAGGAGCAACTAGAACGTCACCTCAGCCAGAACACTTAATAATAAATTAAGTCTTTCAA 160

3 A V P Q N N L Q E Q L E R H S A R T L N N K L S L S K
ACCAAAATTTTCAGGTTTCACTTTAAAAAGAAAAACATCTTCAGATAACAATGTATCTGTAACTAATGTGTAGTAGCAA 240

30 P K F S G F T F K K K T S S S D N N V S V T N V S V A
AAACACCTGTATTAAGAAATAAAGATGTTAATGTACCGAAGACTTTTCTTCAGTGAACCTCTACCCACACACCACAAAT 320

56 K T P V L R N K D V N V T E D F S F S E P L P N T T N
CAGCAAAGGTCAGGACTTCTTTTAAAAATGCTCCAGCAGGACAGGAAACACAGAGAGGTGGATCAAAAATCATTTATGCC 400

83 Q Q R V K D F F K N A P A G Q E T Q R G G S K S L L P
AGATTTCTTCAGACTCCGAAGGAGTTGTATGCACCTACCCAAAACACACCAACTGTAAAGAAATCCCGGATACTGCTC 480

110 D F L Q T P K E V V C T T Q N T P T V K K S R D T A
TCAAGAAATTAGAATTAGTTCTTCACCAGATTCTTTAAGTACCATCAATGATGGGATGATATGGATGACTTTTGATACT 560

135 L K K L E F S S S P D S L S T I N D W D D M D D F D T
TCTGAGACTTCAAAATCATTTGTTACACCACCCCAAGTCACCTTTGTAAGATAAGCACTGCTCAGAAATCAAAAAAGGG 640

163 S E T S K S F V T P P Q S H F V R V S T A Q K S K K G
TAAGAGAACTTTTTTAAAGCACAGCTTTATACAACAACACAGTAAAGACTGATTTGCCCTCCACCTCCTCTGAAAAGCG 720

190 K R N F F K A Q L Y T T N T V K T D L P P P S S E S
AGCAAATAGATTTCAGTGAACAGAGGATGACTCAGAATGTTAAGCAGCGATGTGATTTGCATCGATGATGCGCCCC 800

216 E Q I D L T E E Q K D D S E W L S S D V I C I D D G P
ATTGCTGAAGTGCATATAAATGAAGATGCTCAGGAAAGTGACTCTCTGAAAACCTCATTTGGAGAGATGAAGAGATAATAG 880

243 I A E V H I N E D A Q E S D S L K T H L E D E R D N S
CGAAAAGTGAAGAAATTTGGAAGAGCTGAATTACATTCAACTGAGAAAAGTTCCATGTATTGAATTTGATGATGATGATT 960

270 E K K K N L E E A E L H S T E K V P C I E F D D D D
ATGATACGGAATTTGTTCCACCTTCTCCAGAGAAATTAATTTCTGCTTCTTCTCTCTTCAAAAATGCCCTTAGTACGTTA 1040

296 Y D T D F V P P S P E E I I S A S S S S K C L S T L
AAGGACCTTGACACATCTGACAGAAAAGAGGATGTTCCTTAGCACATCAAAAGATCTTTTGTCAAACCTGAGAAAATGAG 1120

FIG. 2A

323 K D L D T S D R K E D V L S T S K D L L S K P E K M S
 TATGAGGAGCTGAATCCAGAAACCAGCACAGACTGTGACGCTAGACAGATAAGTTTACAGCAGCAGCTTATTCATGTGA 1200
 350 M Q E L N P E T S T D C D A R Q I S L Q Q Q L I H V
 TGGAGCACATCTGTAAATTAATTGATACCTATTCCTCATGATAAAGTGAACCTTTTGGATTGTGGAAACGAACGCTTCAG 1280
 376 M E H I C K L I D T I P D D K L K L L D C G N E L L Q
 CAGCGGAACATAAGAAAGAACTTCTAAGCGAAGTAGATTTTAATAAAAGTATGCCAGTCTTCTTGGCTCATTTGTGGAG 1360
 403 Q R N I R R K L L T E V D F N K S D A S L L G S L W R
 ATACAGGCCTGATTCACCTTGATGGCCCTATGAGGGGTGATTCCTGCCCTACAGGGAATTCCTATGAAGGAGTTAAATTTT 1440
 430 Y R P D S L D G P M E G D S C P T G N S M K E L N F
 CACACCTTCCCTCAAATTCCTTCTCCTGGGACTGTTTACTGACTACCACTAGGAAAGACAGGATTCCTCTGCCACC 1520
 456 S H L P S N S V S P G D C L L T T T L G K T G F S A T
 AGGAAGAATCTTTTGAAGGCTTTTATTCATACCCATTACAGAAGTCTTGTGTAAGTAGCAACTGGGCTGAACACC 1600
 483 R K N L F E R P L F N T H L Q K S F V S S N W A E T P
 AAGACTAGGAAAAAATAAGAACTCTTATTTCCAGGAAATGTTCTCACAAGCACTGTGTGAAGATCAGAATAAAC 1680
 510 R L G K K N E S S Y F P G N V L T S T A V K D Q N K
 ATACTGCTTCAATAANTGACTTAGAAGAGAAACCAACCTTCTATGATATTGATAATTTTGACATAGATGACTTTGAT 1760
 536 H T A S I N D L E R E T Q P S Y D I D N F D I D D F D
 GATGATGACTGGGAAGACATAATGCATAATTTAGCAGCCAGCAATCTTCCACAGCTGCCATATCAACCCATCAAGGA 1840
 563 D D D D W E D I M H N L A A S K S S T A A Y Q P I K E
 AGTCCGCCAATTAATCAGTATCAGAAAGACTTTCCTCAGCCAGCAGACTGTCTTCCAGTGTCTACTCTACTCTCAA 1920
 590 C R P I R S V S E R L S S A K T D C L P V S S T A Q
 ATATAAACTTCTCAGAGTCAATTCAGAAATATATAGCAAGTCAAGCAGCAAAATTTAGCATCCAGAAATCTGAAACATGAG 2000
 616 N I N F S E S I Q N Y T D K S A Q N L A S R N L K H E
 CGTTTCCAAAGCTTAGTTTCTCTCATACAAAGGAAATGATGAAGATTTTTCATATAAAATTTGGCCTGCATAATTTT 2080
 643 R F Q S L S F P H T K E M M K I F H K K F G L H N F R
 AACTAATCTGCTAGAGGGGATCAATGCTGCACCTCTTGGTGAAGACTGTTTATCTCTGATGCCGACTGGAGGTGTAAGA 2160
 670 T N Q L E A I N A A L L G E D C F I L M P T G G G K
 GTTGTGTTACCAGCTCCCTGCTGTGTTCTCTCGGGGTCACTGTGTGCTATTTCTCCCTTGAGATCACTTATCTGTAGAT 2240

FIG. 2B

696 S L C Y Q L P A C V S P G V T V V I S P L R S L I V D
 CAAGTCCAAAAGCTGACTTCCTTGGATATTCAGCTACATATCTGACAGGTGATAAGACTGACTCAGAGCTACAAATAT 2320
 723 Q V Q K L T S L D I P A T Y L T G D K T D S E A T N I
 TTACCTCCAGTTATCAAAAAAGACCCCAATCATATAAACTTCTATATGTCACCTCCAGAAAAGATCTGTGCAAGTAACAGAC 2400
 750 Y L Q L S K K D P I I K L L Y V T P E K I C A S N R
 TCATTTCCTACTCTGGAGAACTCTATGAGAGGAGCTCTTGGCAGCTTTGTTATTGATGAAGCACATTGTGTCAGTCAG 2480
 776 L I S T L E N L Y E R K L L A R F V I D E A H C V S Q
 TGGGACATGATTTTGGTCAAGATTACAAAAGAAATGAATATGCTTGGCCAGAAAGTTTCTCTTCTGTTCCGGTGATGGCTCT 2560
 803 W G H D F R Q D Y K R M N M L R Q K F P S V P V M A L
 TACGGCCACAGCTAATCCAGGGTACAGAGGAGCACTTCTGACTCAGCTGAAGATTCTCAGACCTCAGGTGTTAGCAAGA 2640
 830 T A T A N P R V Q K D I L T Q L K I L R P Q V F S M
 GCTTTAACAGACATAATCTGAAATACTATGTAATACCGAAAAAGCCCTAAAGAGTGGCATTTGATTGCCCTAGAAATGGATC 2720
 856 S F N R H N L K Y Y V L P K K P K K V A F D C L E W I
 AGAAAGCACCAACCATATGATTCAGGGATAATTTACTGCTCTCCAGCGGAGAAATGTGACACCATGGCTGACACGTTACA 2800
 883 R K H H P Y D S G I I Y C L S R R E C D T M A D T L Q
 GAGAGATGGGCTCGCTCTTGTCTTACCATGCTGGCCTCAGTGATTCTGCCAGAGATGAAGTGCAGCAGAGTGGATTA 2880
 910 R D G L A A L A Y H A G L S D S A R D E V Q Q K W I
 ATCAGGATGGCTGTCAGGTTATCTGTGCTACAAATTGCAATTTGGAATGGGATTTGACAAACCGGACGCTGCGATTGTGATT 2960
 936 N Q D G C Q V I C A T I A F G M G I D K P D V R F V I
 CATGCATCTCTCCCTAAATCTGTGGAGGGTTACTACCAAGAATCTGGCAGAGCTTGGAGAGAGATGGGGAATATCTCACTG 3040
 963 H A S L P K S V E G Y Y Q E S G R A G R D G E I S H C
 CCTGCTTTTCTATACCTATCATGATGTGACCAGACTGAAAAGACTTATAATGATGGAATAAGATGGAACCATCATACAA 3120
 990 L L F Y T Y H D V T R L K R L I M E K D G N H H T
 GAGAAACTCACTTCAATAATTTGTATAGCATGGTACATTACTGTGAAAAATATAACGGAATGCAGGAGAAATACAGCTTTTG 3200
 1016 R E T H F N N L Y S M V H Y C E N I T E C R R I Q L L
 GCCTACTTTGGTGAAAATGGATTTAATCTCTGATTTTCTAAGAAACACCCAGATGTTTCTTGTGATAATTGCTGTAAAC 3280
 1043 A Y F G E N G F N P D F C K K H P D V S C D N C C K T

FIG. 2C

AAAGGATTATAAACAAGAGATGTGACTGACGATGTGAAAGATATTCTAAGATTGTTCAGAAACATAGTTTCATCACAAG 3360
 1070 K D Y K T R D V T D D V K S I V R F V Q E H S S S Q
 GAATGAGAAATATAAACAATGTAGTCTTCTGGAAGATTACTATGAATATGCTGGTCGACATTTTCTTGGGAGTAAG 3440
 1096 G M R N I K H V G P S G R F T M N M L V D I F L G S K
 AGTGCAAAATCCAGTCAGGTATATTGGAAAAGGATCTGCTTATTCACGACACAAATGCCGAAAGACTTTTAAAAAAGCT 3520
 1123 S A K I Q S G I F G K G S A Y S R H N A E R L F K K L
 GATACTTGACAAGATTTTGGATGAAGACTTATATCAATGCCAATGACCAGGCGATCGCTTATGTGATGCTCGGAATA 3600
 1150 I L D K I L D E D L Y I N A N D Q A I A Y V M L G N
 AAGCCCAAACTGTACTAAATGGCAATTTAAAGGTAGACTTTATGGAACACAGAAAATTCACGACGATGTGAAAAACAAAA 3680
 1176 K A Q T V L N G N L K V D F M E T E N S S S V K K Q K
 GCGTTAGTACCAAAAGTGTCTCAGAGGGAAGAGATGGTTAAAAAATGTCTTGAGAACTTACAGAACTTACAGAACTGCAAAATCTCT 3760
 1203 A L V A K V S Q R E E M V K K C L G E L T E V C K S L
 GGGGAAAGTTTTTGGTGTCCATTACTTCAATATTTTAAATACCGTCACTCTCAAGAAAGCTTGCAGAACTTTTATCTTCTG 3840
 1230 G K V F G V H Y F N I F N T V T L K K L A E S L S S
 ATCTGAGGTTTTGCTTCAATTTGATGGTGTACTGAAGACAACTGGAAAAATATGGTCCGAAAGTATTCAGTATT 3920
 1256 D P E V L L Q I D G V T E D K L E K Y G A E V I S V L
 CAGAAATACTCTGAATGGACATCGCCAGCTGAAGACAGTTCCCCAGGATAGCCTGTCCAGCAGCAGAGGCCCCCGGAAG 4000
 1283 Q K Y S E W T S P A E D S S P G I S L S S S R G P G R
 AAGTGCCGCTGAGGAGCTTGACGAGGAATACCCGTATCTTCCACTACTTTTGAAGTAAACCCAGAAATGAAGGAAGA 4080
 1310 S A A E E L D E E I P V S S H Y F A S K T R N E R K
 GGAAAAAGATGCCAGCCTCCCAAGGTCTAAGAGGAGAAAAAAGTCTTCCAGTGGTTCCAAGGCAAGGGGGGTCTGCC 4160
 1336 R K K M P A S Q R S K R R K T A S S G S K A K G G S A
 ACATGTAGAAAGATATCTTCCAAAACGAAATCTCTCCAGCATCATTTGGATCCAGTTCAGCTCAGCTCAGTACTTCTCAAGCGAC 4240
 1363 T C R K I S S K T K S S I I G S S A S H T S Q A T
 ATCAGGAGCCAATAGCAAAATTTGGGATTTATGGCTCCACCGAAGCCTATAAATAGACCGTTTCTTAAGCCTTCATATGCAT 4320
 1390 S G A N S K L G I M A P P K P I N R P F L K P S Y A
 TCTCATAAcaaccgaatctcaatgtacatagaccctcttcttgtgtcagcatctgaccatctgtgactataaagctg 4400
 1416 F S
 ttattcttgttataccacaaaaaaaaaaaaaaaaa 4437

FIG. 2D

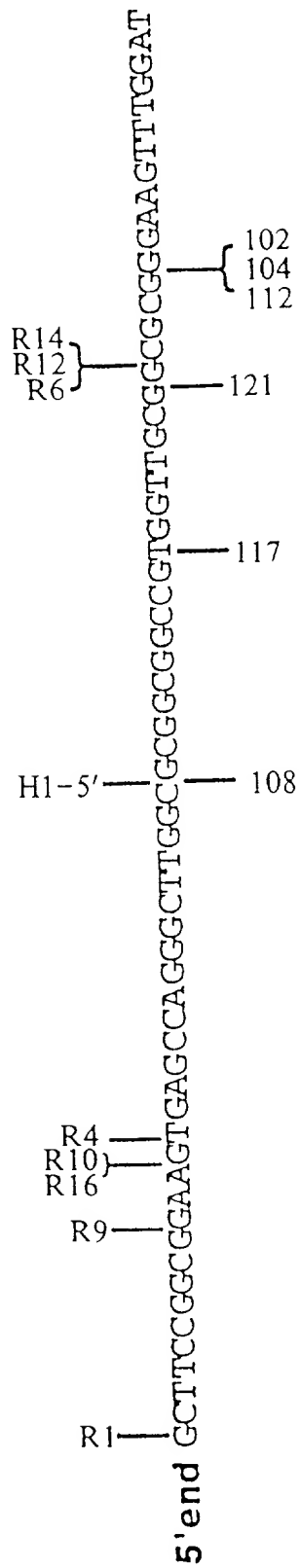


FIG. 3

	I	Ia
649	FPHTKEMMKIFHKFGLHNFRNTNQLEA INAALLGEDCFILMPTGGGKSLCYQLPACV-----SPGVTVVISPLRSLIVDQV	BLM
74	FPWSGKVKDILQNVFKLEKFRPLQLE TINVTMAGKEVFLVMPTGGGKSLCYQLPALC-----SDGFTLVICPLISLMEDQL	REQL
659	YPWSDEVLYRLHEVFKLPGRPNQLEAVNATLQGDVFLVMPTGGGKSLCYQLPAVVKSGKTHGTTIVISPLISLMQDQV	SGS1
16	-----VLQETFGYQQFRPGQEEI IDTVLSGRDCLVVMPTGGGKSLCYQIPALL-----LNGLTVVVVSPLISLMKDQV	recQ
	I I	
725	QKLTSLDIPATYLTGDKTDSEATNIYLQSKKDPI IKLLYVTPEKICASNRLISTLENLYERKLLARFVIDEAHCVSQWG	BLM
150	MVLKQLGISATMLNASSKEHVVKWVHDEMVNKNSELKLIYVTPKEIAKSMFMSRLEKAYEARRFTRIADVDEHVHCCSQWQ	REQL
739	EHLNKNIKASMFSSRGTAEQRRQTFFNLFIN--GLLDLYISPEMI SASEQCKRAISRLYADGKLARIWVDEAHCVSNWG	SGS1
83	DQLQANGVAAACLNSTQTRREQQLEVMT--GCRTGQIRLLYIAPERL-----MLDNFLEHL-AHWNPVLLAVDEAHCISQWG	recQ
	III *	
805	HDFRQDYKRMNMLRQKFPSPVPMALTATANPRVQKDILTQLKILRPQVFSFNRHNLKYYVLPKPKKVA---FDCLEW	BLM
230	HDFRPDYKALGILKRQFPNASLIGLTATATNHLVLTDAQILCIEKCFTFASFNPNL--YYEVROKQPSNTEDFIEDIVKL	REQL
817	HDFRPDYKELKFFKREYDPDIPMIALTATASEQVRMDIIHNLELKEPVFLKQSFNRTNL--YYEVNKKTKNT---IFEICDA	SGS1
157	HDFRPEYAALGQLRQRFPPTLPFMALTATADDDTTTRQDIVRLGLNDPLIQISSDRPNIRY-MLMEKFKPLDQLM-----RY	recQ
	IV	
882	IRKHHPYDSGIIYCLSRRECDTMADTLQRDGLAALAYHAGLSDSARDEVQQKWQINQDGCQVICATIAFGMGIDKPDVRFV	BLM
309	INGRYKQSGIIYCFSQKDSQVTVSLQNLGIHAGAYHANLEPEDKTTVHRKWSANE-IQVVVATVAFGMGIDKPDVRFV	REQL
893	VKSRFNQGTGIIYCHSKKSCQTSQMQMRNGIKCAYYHAGMEPDERLSVQKAWQADE-IQVICATVAFGMGIDKPDVRFV	SGS1
233	VQEQ--RGKSGIIYCNRAKVEDTAAALQSKGISAAAYHAGLENNVRADVQEKFORDD-LQIVVATVAFGMGINKPNVRFV	recQ
	VI	
962	IHASLPKSVEGYQESGRAGRDEGEISHCLLFYTYHDVTRLKRLIMMEKDGNNHHTRETHFNNLYSMVHYCENITECRRIQ	BLM
388	IHHSMSKSMENYYQESGRAGRDDMKADCILYGFQDIFRISSMVMENVGQQ-----KLYEMVSYCQNISKSRRVLM	REQL
972	YHFTVPRTLEGYYQETGRAGRDGNYSYCITYFSFRDIRTMQTMIQDKNLDRENKEKHLNKLQQVMA YCDNVTDCRRKLV	SGS1
311	VHFDIPRNIESYYQETGRAGRDGLPAEAMLFYDPADMAWLRLCLEEKPQGLQDIERH--KLNAMGAFAEAQT-CRRLVL	recQ

FIG. 4

4.5 kb →

HG2162
HG2635
HeLa

HG1943
HG2162
HG2703
HG1584
HG1987
HG1972
HG2231
HG1626
HG2820

FIG. 5A

FIG. 5B



FIG. 6D



FIG. 6E